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ABSTRACT

This manual provides information to aid home computer owners in performing literature searches of ERIC and other education and social science databases using the BRS Information Technologies "After Dark" system. Assuming some familiarity with printed ERIC indexes or online searches, this manual is divided into five chapters. It is suggested that potential searchers should study the first two chapters before going online. These chapters cover the basic concepts of developing a search strategy and the commands used by the BRS "After Dark" system. The third chapter disucsses various ways to modify the search strategy regarding the retrieval of too few or too many citations. The next chapter explains how to accomplish common types of non-subject searches: specific author, publications from a specific institution, speeches from a specific meeting, or certain types of publications. The final chapter provides basic information concerning other searchable databases: Educational Testing Service Test Collection; Exceptional Child Education Resources; Mental Measurement Yearbook; Psychological Abstracts; and Resources in Computer Education. Attachments include: Search Strategy Worksheet; ERIC Field Name and Abbreviations; "After Dark" Command Summary; Mandatory Level Descriptors; and Publication Type Codes. (PN)

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"AFTER DARK" EDITION

U.S. DEPARTMENT OF EDUCATION
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EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

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AT HOME WITH ERIC®

ONLINE SEARCHING FROM YOUR HOME COMPUTER

by

Emma González-Stupp

and

Barbara M. Wildemuth

ERIC®

TESTS MEASUREMENT EVALUATION

EDUCATIONAL TESTING SERVICE
PRINCETON, NEW JERSEY 08541-0001

ED267099

TM 860 186

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ERIC Clearinghouse on Tests,
Measurement, and Evaluation
Educational Testing Service
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PREFACE

The purpose of this manual is to provide guidance to home computer owners who would like to do their own literature searches of ERIC and other education and social science databases. It is assumed that the reader will have some familiarity with ERIC, either through experience in searching the printed ERIC indexes or through use of online literature searches performed by a librarian. This manual is not intended to develop "expert" searchers, and readers are advised to continue to get assistance from an experienced online searcher for their more complex searches. It is also assumed that the reader is familiar with the use of his or her home computer and modem.

This manual is divided into five chapters. All potential searchers should study the first two chapters before going online. They cover the basic concepts of developing a search strategy, and the commands used by the "After Dark" system. The third chapter discusses various ways to modify your search strategy, if too many or too few citations were retrieved. Though you may not need this information with your first search, it would be helpful to read it before going online. Chapter 4 explains how to do some common types of non-subject searches, such as searches for the works of a specific author. Specific sections of it can be consulted as needed. The final chapter provides basic information about a few of the other databases you may wish to search. For more detail about these databases, or for a more complete listing of the databases available, you should consult the materials provided to you by BRS Information Technologies.

The draft version of the manual was used as a workshop syllabus at the 1985 Annual Meeting of the American Educational Research Association (AERA). Comments from the workshop participants, the 15 other ERIC Clearinghouses, and the staff of BRS Information Technologies were used to improve its content and organization. Funding for its development was provided by the National Institute of Education, under Contract No. 400-83-0015. We would like to express our appreciation to all those who have assisted in bringing it to its current form.

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CHAPTER 1

BASIC CONCEPTS IN ONLINE SEARCHING

The first step in any literature search involves the careful analysis of the research problem--deciding what information is needed, the level of information needed, and the amount of results expected or desired. Determining search objectives at the onset of your literature search can save time and money. Once you have defined your information need, you must develop the search strategy by compiling and organizing the terms or keywords representing the concepts which could be used to retrieve citations in a particular subject area.

DEFINING YOUR INFORMATION NEEDS

Before you can begin searching for documents and articles about a certain topic, you must have a clear idea about the topic in which you are interested. You should define the topic, both in terms of examples of documents that would satisfy your information need, and examples of closely-related documents that would not satisfy your information need. Of course, your topic will evolve as you do more reading about it, but you should have a clear definition of it in your mind before you begin your search.

As an example, let's assume that you are on the staff of the state department of education. You have been given the assignment of examining state-supported efforts (including legislation, court litigation, state-supported research, etc.) in the area of merit pay for teachers. The purpose of your review is to provide information to agency and legislative staff considering merit pay legislation for your state.

You could define your search question as identifying any documents that discuss merit pay for teachers. However, that would probably retrieve many documents that express personal opinions about merit pay; these documents would be of limited usefulness in satisfying your information need. You really need only those opinion papers that explain the positions of other states taking some type of action on merit pay. Therefore, you will want to limit your search to state-related papers.

Now that you have clearly defined your topic, you know that you are looking for recent documents that describe state-related activity on merit pay for teachers. Next, let's see how to choose the terms to use in this search.

SELECTING THE SEARCH TERMS

Before going online, some check of word lists and thesauri will help insure that the search terms used will lead to useful results. Both the controlled vocabulary of a data base (subject terms in the descriptor field) and the free text (other subject-conveying fields such as the identifier, title, and abstract fields) are possible sources of search terms.

Descriptors

The most common approach to ERIC material is by subject. The ERIC system uses a controlled vocabulary when assigning subject headings to a document. These subject headings, known as descriptors, are taken from the Thesaurus of ERIC Descriptors.

In developing your search strategy, you should consult the ERIC Thesaurus identify appropriate subject headings using the following steps:

1. "Translate" your topic into ERIC descriptors. The Rotated Descriptor Display in the back of the Thesaurus may help you.
2. Look up the best descriptors in the Alphabetical Descriptor Display.
   Read the Scope Notes for information on how ERIC uses the terms.
   Check the Broader Terms (BT), Narrower Terms (NT), and Related Terms (RT) for additional relevant terms.
3. Make a final list of the descriptors most likely to have been used to represent your topic.

The introduction to the Thesaurus is clearly written and contains useful information and examples. It should be consulted for more specific assistance.

Descriptors That Apply to Our Sample Search. After consulting the Thesaurus, you will find that there are several terms that apply to our search topic. They include:

MERIT PAY
MERIT RATING
PREMIUM PAY
TEACHERS
PUBLIC SCHOOL TEACHERS
BEGINNING TEACHERS
ELEMENTARY SCHOOL TEACHERS
SECONDARY SCHOOL TEACHERS
STATE PROGRAMS
STATE AGENCIES
STATE LEGISLATION

STATE ACTION
STATE GOVERNMENT
STATE COURTS
STATE STANDARDS

Free Text Searching

The free text searching capability of BRS allows for the scanning of all subject-conveying fields of the ERIC record: title, abstract, descriptor, identifier, descriptive note, corporate source and sponsoring agency. Search terms compiled from sources other than the ERIC Thesaurus can be searched as free text in all or a specified number of subject-conveying fields; however, the number of documents retrieved may be low if only a single subject-conveying field is searched.

Identifiers. Terms reflecting the content of the document, such as personal names, geographic locations, trade names, and organizations, are frequently assigned as identifiers. Besides specific entities, identifiers may also consist of more general concepts that have been introduced in the literature but not yet added to the Thesaurus. Identifiers are searched as free text words.

Free Text Terms That Apply to Our Sample Search. Several free text terms may be used to supplement the descriptors we have chosen for our sample search. These free text words and phrases include:

MERIT PAY
MERIT RATING
MERIT RAISE
MERIT RAISES
BONUS
BONUSES
STATE LAW
STATE LAWS
STATE ACTIVITY
STATE ACTIVITIES

By now, you have noticed that some of these terms are exactly the same as the descriptors we chose. Using them as free text subject terms will allow us to retrieve documents for which they were not assigned as subject terms by the indexer, but were used in the title, abstract, or identifier fields. Using them in this way will allow us to retrieve more citations than if we restrict our search to descriptors. However, it may also add less relevant citations to the search output.

ORGANIZING YOUR SEARCH TERMS

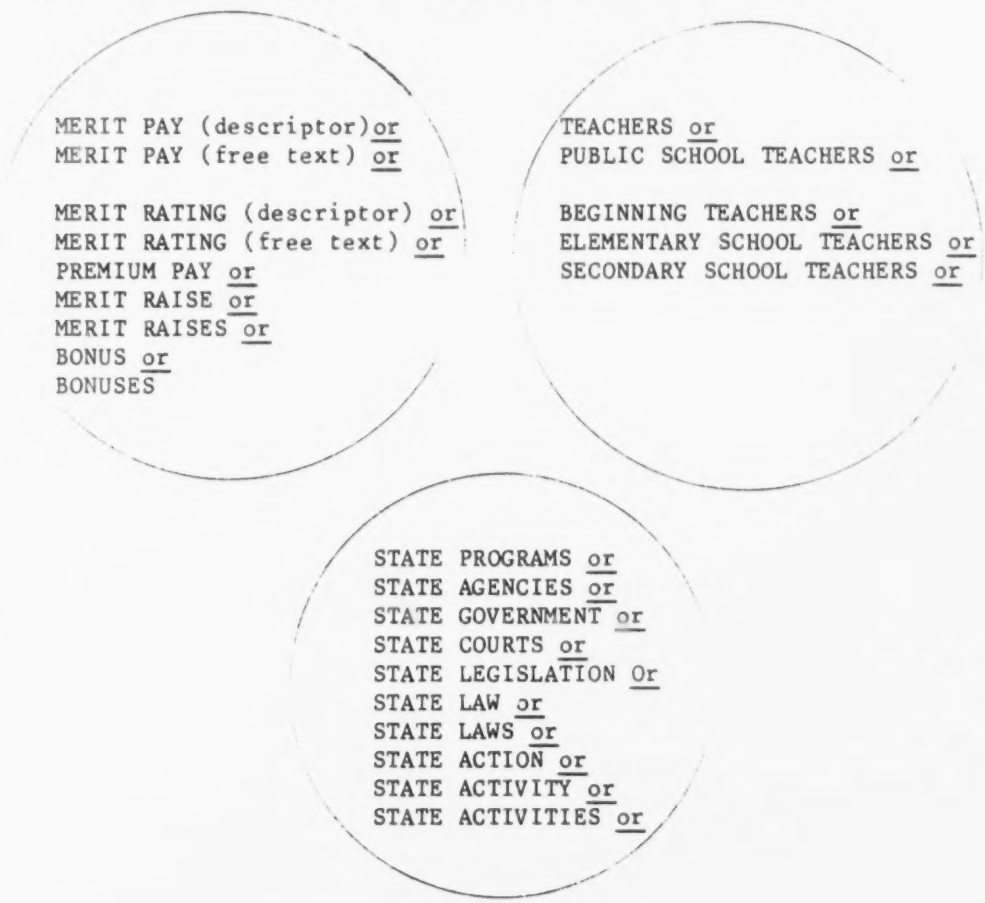
At this point, we have selected several subject terms that are related to our search topic: state activities in merit pay for teachers. Before going online, we need to organize these search terms into sets, and decide how the sets should be combined. In our example, there are three separate subject concepts (merit pay, teachers, and state activities). A diagram of these concepts might

look something like this:

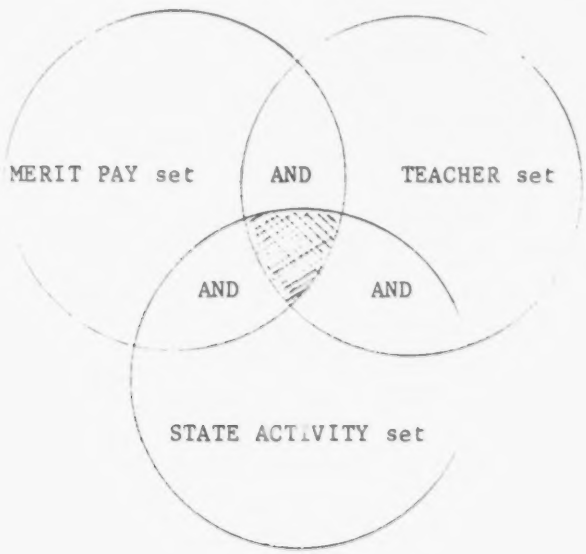
Next, we need some tools to help us organize our subject terms into concept groups, and then to combine those groups to form a search strategy. The tools we will need are called logical operators. There are three logical operators used in online searching: OR, AND, and NOT. The following table defines each:

LOGICAL OPERATORS	
OR	Either one or both subject terms must be in each citation retrieved.
AND	Both subject terms must be in each citation retrieved.
NOT	The subject term must not appear in the citation.

Using the OR operator, we can combine all the terms describing our "merit pay" concept to form one big set of terms about merit pay. We can do likewise with each of our subject concepts. The result could be diagrammed like this:



So far, we have three separate sets of concepts. Next, we need to combine them in some meaningful way. We will do this using the AND operator. As you know from a previous table, the AND operator will require that both terms used must appear in the same document. When sets of terms are combined, any possible combination of a term from the first set and a term from the second set will meet this criterion. For our sample search, we will want to combine all three sets with AND operators. The result of the combination can be illustrated:



The shaded area represents the documents that will be retrieved with this search strategy.

EVALUATING PRELIMINARY RESULTS

While online, you should monitor the search in progress and check on results. Are you retrieving enough citations? Are you retrieving too many citations? Are the retrieved titles relevant to your search topic? Your answers to these questions may signal a need for changes in your search strategy or the overall approach to your search. See Chapter 3 for examples of possible changes to your search strategy.

CHAPTER 2

USING THE "AFTER DARK" SYSTEM

LOGGING ON

Now that you have defined your information need and developed your search strategy, it's time to go ONLINE and do some searching. The first step is to log on to the BRS "After Dark" Service.

BRS and most database vendors can be accessed through the three major telecommunications networks: TELENET, TYMNET, and UNINET. As prices can vary from network to network, searchers should consult BRS for current pricing information. With local access in all major cities and many smaller metropolitan areas, most networks permit users to dial a local number and then be switched to the BRS computer at hourly rates significantly lower than normal long-distance charges. A list of the cities with public dial access for each of the three networks is provided to BRS users and updated periodically in the BRS Bulletin.

Please note that there are slightly different logging-on instructions for each of the three telecommunications networks. A sample of each is provided below. In the sample, user input is in **BOLD** to distinguish it from system responses; **<CR>** indicates the "enter" or "carriage return" keys.

Sample TELENET Sign-In:

```
TELENET
612 DL2

TERMINAL= <CR>
@C 315 20BR <CR>

31520BR CONNECTED

ENTER BRS PASSWORD
XXXXXXXXXXXXXXX
```

Sample TYMNET Sign-In:

```
PLEASE TYPE IN YOUR TERMINAL IDENTIFIER
<CR>

PLEASE LOG IN:
+
BRS <CR>
```

```
Remote: call connected

ENTER BRS PASSWORD:
XXXXXXXXXXXXXXXX
```

Sample UNINET Sign-In:

```
CONNECT

X:
<CR> . <CR>

UNINET PAD 66c8 port 00
service:
BRS;A <CR>

*U001000 CONNECTED TO 51800006

ENTER BRS PASSWORD:
XXXXXXXXXXXXXXXX
```

SELECTING A DATABASE

When you've logged on, you will be asked which general subject area you would like to search. The system will present the following menu:

```
NUMBER          ITEM
    1           LOOKING FOR INFORMATION?...SEARCH SERVICE
    2           WANT TO HEAR THE LATEST?...NEWSLETTER SERVICE
    4           KEEP IN TOUCH!...ELECTRONIC MAIL SERVICE
    6           WHAT'S NEW?...NEW SYSTEM FEATURES
    7           WANT TO CHANGE YOUR SECURITY PASSWORD?...SECURITY

TYPE IN MENU ITEM NUMBER THEN HIT ENTER KEY FOR DESIRED SELECTION

XX--> 1

YOU ARE NOW CONNECTED TO THE BRS AFTER DARK SEARCH SERVICE.  THE
FOLLOWING CATEGORIES OF DATABASES ARE AVAILABLE FOR SEARCHING.

CATEGORY        DESCRIPTION

    1           SCIENCE AND MEDICINE DATABASES
    2           BUSINESS AND FINANCIAL DATABASES
    3           REFERENCE DATABASES
    4           EDUCATION DATABASES
    5           SOCIAL SCIENCE AND HUMANITIES DATABASES
```

```
TYPE IN CATEGORY NUMBER THEN HIT ENTER KEY FOR CATEGORY OF
DATABASES DESIRED.
XX--> 4
```

Because you want to locate citations about merit pay for teachers, you responded that you wanted to do a search in the general area of education. Next, a menu will appear that will allow you to select a specific database. For our example, you will choose ERIC (Some of the other databases are described in Chapter 5):

```
EDUCATION DATABASES
**********************************
DATABASE NAME                                          LABEL

BILINGUAL EDUCATION BIBLIOGRAPHIC ABSTRACTS            BEBA
EDUCATION RESOURCE INFORMATION CENTER (ERIC)           ERIC
EDUCATIONAL TESTING SERVICE'S TEST COLLECTION          ETSF
EXCEPTIONAL CHILD EDUCATION RESOURCES                  ECER
NATIONAL COLLEGE DATABANK                              PETE
ONTARIO EDUCATION RESOURCES INFORMATION SYSTEM         ONED
RESOURCES IN COMPUTER EDUCATION                        RICE
RESOURCES IN VOCATIONAL EDUCATION                      RIVE
RESOURCE ORGANIZATIONS & MEETINGS FOR EDUCATORS        ROME
SCHOOL PRACTICES INFORMATION FILE                      SPIF
TEXAS EDUCATION COMPUTER COOPERATIVE                   TECC
VOCATIONAL EDUCATION CURRICULUM MATERIALS              VECM

TYPE IN LABEL FOR DATABASE DESIRED:
XX--> ERIC

WOULD YOU LIKE INSTRUCTIONAL PROMPTS? PLEASE TYPE YES OR NO: NO
```

You may want to ask for instructional prompts by typing YES the first few times to familiarize yourself with the different commands BRS "After Dark" has to offer. After each search statement, BRS will respond with a description of each command. We recommend that once you have learned the commands, it is best to type NO to save time and money. For information on the specific commands (P, R, D, M, OR O), see OTHER SYSTEM COMMANDS discussed later in this chapter and the REVIEW of "After Dark" COMMANDS at the end of the chapter.

```
WOULD YOU LIKE A DESCRIPTION OF THE DATABASE?  (YES OR NO)
XX--> YES
```

You will want to get a description of each database the first time you use it. However, the best way to become familiar with a database is to try it out.

Next, the system will present you with the option of searching or issuing a different command. You are now ready to begin your search.

ENTERING THE SEARCH TERMS

The features of any computerized retrieval system influence the way in which a given search is formulated for that system. A few of the operations that can seriously affect search strategy operations are described briefly below.

Once you've determined the correct form of each term that you wish to use in your speech, you may wish to use the worksheet in Attachment 1 to organize them into sets. Organizing your search strategy in this way before going online will help you to perform your search more efficiently.

Descriptor Format

Multiple-word descriptors are entered with hyphens between the words. For example, the descriptor MERIT PAY would actually be entered MERIT-PAY.

Single-word descriptors must be distinguished from free text words by limiting them to the descriptor field. This is done by adding the abbreviation for the descriptor field at the end of the term. The format is:

TEACHERS.DE.

Word Proximity Searching

Free text terms frequently appear as phrases, rather than individual words. To tell the system that you want to search for a free text phrase, you tell it that you want the words of the phrase to be within a specific proximity to the other words in the phrase. Within AFTER DARK, there are three options:

ADJ	Terms must be immediately adjacent to one another, in order; e.g., MERIT ADJ PAY
WITH	Terms must be in the same sentence.
SAME	Terms must be in the same field, e.g., both terms must be in the abstract.

Limiting The Term to a Specific Field

By typing a field label immediately after a keyword, the searcher can limit the searching of that term to that particular field. This feature can also be very useful in the searching of words adjacent in a title or in limiting a keyword to be searched in both the title and descriptor fields. You saw an example of this type of limiting in the previous discussion of the format for descriptors.

The field label must be preceded and followed by a period, with no spaces in between. Several fields can be searched in the same manner, separating each paragraph label by a comma. Some examples are:

```
MERIT ADJ PAY.TI,DE.
MERIT ADJ RAISE.TI.
```

All the ERIC fields and their abbreviations are listed in Attachment 2.

Use of Truncation

Some searches require the keying in of many related terms which can be very time-consuming. One way to bypass this is to use the feature of truncation. Stem searching or truncation allows the searcher to search many related terms all in the same statement. The symbol for truncation is the dollar sign ($) which must be entered immediately after the stem that is being searched.

STATE ADJ ACTIVIT$	This would include both STATE ACTIVITY and STATE ACTIVITIES.
TEACH$	This would include TEACHING, TEACHERS, TEACHER-EDUCATION, etc.

The searcher can limit the number of characters by specifying a maximum number of characters that are to follow the stem or word being truncated.

TEACHER$1	One letter - would include TEACHER or TEACHERS.

The searcher should note that unrestricted truncation can produce unwanted citations. Caution should be taken to account for all possible endings of words. It is best to restrict truncation to a specified number of characters.

OUR SAMPLE SEARCH

You now know all the basic information that you need to know to set up and run a subject search in ERIC. Using our example, let's see what it would look like:

```
ENTER COMMAND:  S, P, R, D, M, OR O.
XX--> S

TYPE IN SEARCH TERMS, OR ENTER COMMAND
S1--> MERIT ADJ PAY.DE,TI,ID,AB. OR MERIT ADJ RATING.DE.TI,ID.AB.

A1      371 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S2--> PREMIUM-PAY OR MERIT ADJ RAISE$1.TI,ID,AB. OR BONUS$2.TI,ID.

A2--> 69 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S3--> 1 or 2

A3      424 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S4--> TEACHERS.DE. OR PUBLIC-SCHOOL-TEACHERS OR BEGINNING-TEACHERS

A4      20964 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S5--> SECONDARY-SCHOOL-TEACHERS OR ELEMENTARY-SCHOOL-TEACHERS

A5      4489 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S6--> 4 OR 5

A6      20964 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S7--> STATE-PROGRAMS OR STATE-AGENCIES OR STATE-GOVERNMENT OR
      STATE-COURTS

A7      8436 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S8--> STATE-ACTION OR STATE ADJ ACTIVIT$3.TI,ID.

A8      595 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S9--> STATE-LEGISLATION OR STATE ADJ LAW$1.TI,ID.

A9      3849 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S10--> 7 OR 8 OR 9

A10     11963 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S11--> 3 AND 6 AND 10

A11     11 DOCUMENTS FOUND
```

In just a few minutes you have identified 11 relevant documents from the half a million documents in the ERIC database. The next step is to evaluate your results by looking at some of the citations retrieved.

PRINTING THE CITATIONS RETRIEVED

You are now ready to print the output of your search. BRS offers printing ONLINE in several formats: printing a short citation (bibliographic fields only), printing a medium length citation (bibliographic fields plus descriptors), and printing the complete citation (including abstract). A list of all the fields in the complete citation, along with their abbreviations, is included in Attachment 2.

Printing Online

Online prints are requested with the command, P. Either short, medium, or long citation formats can be requested. A short citation includes the following fields: accession number, author(s), title, source, issue date (corresponds to the appropriate monthly issue of Resources in Education or Current Index to Journals in Education), and price (for RIE documents only).

To print the short citation, type the letter P for the print command, the search question number for the set to be printed, S for the short citation and the number (or range of numbers) of the document(s) to be printed. For example:

```
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S12--> P

ENTER SEARCH QUESTION NUMBER
XX--> 11

ENTER S, M, OR RETURN
XX--> S

ENTER DOCUMENT NUMBER OR RANGE.
XX--> 1

 1
AN ED253540.
AU Leach, J. William; Solomon, Lester.
TI Performance-Based Certification in Georgia; Present and Future.
IS RIEJUN85.
```

To print a medium length citation, type the letter M instead of S . This printing format includes the following fields: accession number, author, title, source, issue, and descriptor fields. For example:

```
TYPE ANOTHER DOCUMENT NUMBER, OR ENTER COMMAND
XX--> P

ENTER SEARCH QUESTION NUMBER.
XX--> 11

ENTER S, M, OR RETURN
XX--> M

ENTER DOCUMENT NUMBER OR RANGE.
XX--> 2


 2
AN EJ286621.
AU Tursman, Cindy.
TI Merit Pay Revisited.
SO School Administrator; v40 n8 p19,22-24 Sep 1983. 83.
IS CIJJAN84.
DE Career-Development. Merit-Pay. Salary-Wage-Differentials.
   Academic-Achievement. Differentiated-Staffs.
   Elementary-Secondary-Education. Master-Teachers.
   State-Legislation. Teacher-Evaluation.
```

To print a full citation (including abstract), type <CR> instead of S or M:

```
TYPE ANOTHER DOCUMENT NUMBER, OR ENTER COMMAND.
XX--> P

ENTER SEARCH QUESTION NUMBER.
XX--> 11

ENTER S, M, OR RETURN
XX--> <CR>

ENTER DOCUMENT NUMBER OR RANGE.
XX--> 3
```

3
AN ED183123.
AU Forest, Robert F.
TI A Plan for the Development of Policies Governing Administrative Merit for Faculty at Castleton State College.
LG EN..
GS U.S. Vermont.
IS RIEJUL80.
CH HE012392.
PR EDRS Price - MF01/PC02 Plus Postage.
PT 142; 043.
LV 1.
NT 46p. ; Practicum presented to Nova University in partial fulfillment of requirements for the Doctor of Education degree.
YR 78.
MJ Awards. College-Faculty. Evaluation-Criteria. Faculty-Evaluation. Merit-Pay. Teacher-Salaries.
MN Committees. Competition. Competitive-Selection. Deans. Faculty-College-Relationship. Higher-Education. State-Colleges. Unions.
ID Castleton State College VT.
AB In order to clarify the process and criteria by which faculty at Castleton State College in Vermont are chosen for merit awards, the faculty union representative and an administration representative were interviewed. Problems of evaluation and funding, common in merit programs, were found to be paramount, and it became evident that the ideal merit award program would have to be scaled down to be realistic. It was also decided that the fairness of the plan and a positive impact on faculty morale were very important. In the plan developed, a committee of faculty and administration representatives would arrive at a written statement of criteria for awards. The individual faculty member would use these criteria as guidelines, and request consideration for an award at the time of the annual faculty evaluation report. The written request, supported by documentation for the faculty member's performance, would be submitted directly to the academic dean. A decision would be made based on the written guidelines, and notification of the decision and/or the amount of the award would be made by August 31st. (MSE).

OTHER SYSTEM COMMANDS

Reviewing the Search Strategy

You have just entered your search strategy, and, perhaps you would like to examine what you have just done. By entering the command **R**, BRS provides you a display of your search strategy for your review:

```
TYPE IN SEARCH TERMS OR ENTER COMMAND
S12--> R

BRS/ERIC/1966 - NOV 1984 (BOTH)
1    (MERIT ADJ PAY.DE,TI,ID,AB. OR MERIT ADJ RATING.DE.TI,ID,AB.)
               RESULT   371
2    (PREMIUM-PAY OR MERIT ADJ RAISE$1.TI,ID,AB. OR
     BONUS$2.TI,ID.)
               RESULT    69
3    (1 OR 2)
               RESULT   424
4    (TEACHERS.DE. OR PUBLIC-SCHOOL-TEACHERS OR
     BEGINNING-TEACHERS)
               RESULT   20964
5    (SECONDARY-SCHOOL-TEACHERS OR ELEMENTARY-SCHOOL-TEACHERS)
               RESULT    4489
6    (4 OR 5)
               RESULT   20964
7    (STATE-PROGRAMS OR STATE-AGENCIES OR STATE-GOVERNMENT OR
     STATE-COURTS)
               RESULT    8436
8    (STATE-ACTION OR STATE ADJ ACTIVIT$3.TI,ID.)
               RESULT     595
9    (STATE-LEGISLATION OR STATE ADJ LAW$1.TI,ID.)
               RESULT    349

10   (7 OR 8 OR 9)
               RESULT   11963
11   (3 AND 6 AND 10)
               RESULT      11
```

Changing Databases

BRS allows you to change databases or start over in the same database by typing in the command D anytime during a search. BRS will respond with the following dialogue:

```
TYPE IN SEARCH TERMS OR ENTER COMMAND
S9--> D

TYPE IN LABEL FOR DATABASE DESIRED
XX--> ERIC

WOULD YOU LIKE A DESCRIPTION OF THE DATABASE? (YES OR NO)
XX--> NO

BRS/ERIC/1966 - NOV 1984 (BOTH)
TYPE IN SEARCH TERMS OR ENTER COMMAND
S1-->
```

Returning to the Master Menu

At any time during your search, BRS allows you to return to the master menu if you should want to access any of BRS's other features (if you need to change databases or start over, use the D command). To return to the master menu, type M after the computer prompt:

```
TYPE IN SEARCH TERMS OR ENTER COMMAND
S1--> M

  CHECK MENU ITEM 6 FOR INFORMATION ON NEW AFTER DARK DATABASES
  AND SYSTEM ENHANCEMENTS.

TONIGHT'S MENU IS:

NUMBER          ITEM

    1           LOOKING FOR INFORMATION?...SEARCH SERVICE
    2           WANT TO HEAR THE LATEST?...NEWSLETTER SERVICE
    4           KEEP IN TOUCH!...ELECTRONIC MAIL SERVICE
    6           WHAT'S NEW?...NEW SYSTEM FEATURES
    7           WANT TO CHANGE YOUR SECURITY PASSWORD?...SECURITY
```

Logging Off

When you are ready to log off, simply type the command O. The computer will respond with connect time and cost information:

```
TYPE IN SEARCH TERMS OR ENTER COMMAND
XX--> O

*CONNECT TIME   0:02:20 HH:MM:SS    0.039 DEC HRS    SESSION 8544

EST ERIC COST:   C-HRS     DB-ROY     CIT-ROY    COMM      TOTAL

                  $.23       $.00       $.00      $.31      $.54

*SIGN-OFF   13.11.36          02/25/85
315 20B DISCONNECTED 00 00
```

REVIEW OF AFTER DARK COMMANDS

There are only six commands in the "After Dark" system. They are summarized below.

AFTER DARK COMMANDS

S	Search	To enter search terms.
P	Print	To print search results online.
R	Review	To review the search terms already entered.
D	Database	To change to a different database.
M	Menu	To return to the Master Menu.
O	Off	To log off the system.

All the "After Dark" commands, logical operators, and word proximity operators are summarized in Attachment 3.

CHAPTER 3

ADJUSTING YOUR SEARCH STRATEGY WHILE ONLINE

Online searching can be a continually changing process, requiring you, the searcher, to adjust the search strategy as the need arises. It is advisable to select an alternative search strategy to use in case the first one does not yield the expected results. While searching, you need to be continually aware of the results, examining titles to determine their relevancy, and if need be, examining descriptors for possible new terms to use. Thinking online is the name of the game, for it can save you time and money as well as resulting in a much better search strategy with a higher percentage of "hits".

Two problems that require search strategy revision commonly arise: retrieving too many citations, or retrieving too few citations. These two types of problems reflect your competing goals as a searcher. You want to retrieve every citation that is relevant, and you don't want to retrieve any citation that is not relevant. You need to remember that expanding your search results will optimize your results in meeting the first goal; reducing the number of citations retrieved will hopefully optimize your results in meeting the second goal. It is impossible to optimize your search results for both goals simultaneously.

WHAT IF YOU RETRIEVED TOO MANY CITATIONS?

You think you have devised the "perfect" search strategy--you have identified the descriptors and free-text terms you want to use and you have combined them using the "set" theory approach. After going online and inputting your search, you discover that you have retrieved too many citations. WHAT SHOULD YOU DO? Don't panic! There are several methods of limiting your search output.

Some of the methods most commonly used in limiting a search are: (1) adding an additional set of terms, (2) restricting your search terms to specific fields, and (3) limiting your search output by date of publication.

Adding Another Set of Terms

Let's try an example of a search where adding another set of terms is necessary to limit the search output. The search topic was "Equity and Excellence in Education". Originally, two sets of terms were developed:

EQUITY.TI,DE. OR EQUAL-EDUCATION	and	EXCELLENCE.TI. OR EDUCATIONAL-QUALITY.DE.

The online search then looked like this:

```
ENTER COMMAND: S, P, PO, R, D, M, OR O.
XX--> S

TYPE IN SEARCH TERMS, OR ENTER COMMAND
S1--> EQUITY.TI,DE. OR EQUAL-EDUCATION

A1    5840 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S2--> EXCELLENCE.TI. OR EDUCATIONAL-QUALITY.DE.

A2    4264 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S3--> 1 AND 2

A3    433 DOCUMENTS FOUND
```

When we combined the excellence terms with our equal education terms, we discovered that we still had too many citations. Since we were really interested in trends at the elementary-secondary levels, we then revised our search by adding a third set of descriptors.

To describe the elementary-secondary level of education, these descriptors were selected rom ERIC's list of 14 "mandatory" educational level terms. These descriptors subsume several of the more specific terms, and one or more of them is always used to index the appropriate educational level of each document. These "mandatory" level terms are listed in Attachment 4.

Our sample search would be revised in the following way:

```
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S4--> ELEMENTARY-SECONDARY-EDUCATION OR ELEMENTARY-EDUCATION OR
      SECONDARY-EDUCATION

A4    123031 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S5--> 3 AND 4

A5    196 DOCUMENTS FOUND
```

By adding this third set of terms, we have lowered the number of citations retrieved. Unfortunately, this number of citations is still too many. Therefore, we will limit the results even further by restricting some of the search terms to specific fields.

Restricting Terms to a Particular Field

Limiting the search output by restricting terms to a particular field (known as paragraph qualification) is widely used

by most searchers. To illustrate this technique, we will continue with the previous example on "Equity and Excellence". First, let's review the terms we've already used:

```
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S6-->   R

BRS/ERIC/1966 - NOV 1984 (BOTH)
1   EQUITY.TI,DE. OR EQUAL-EDUCATION)
      RESULT    5840
2   (EXCELLENCE.TI. OR EDUCATIONAL-QUALITY.DE.)
      RESULT    4264
3   (1 AND 2)
      RESULT     433
4   (ELEMENTARY-SECONDARY-EDUCATION OR ELEMENTARY-EDUCATION OR
      SECONDARY-EDUCATION)
5   (3 AND 4)
      RESULT     196
```

One of the most common ways to limit your search by restricting the subject terms to specific fields is to limit them to "major" descriptors. Major descriptors represent the main concepts contained in individual documents and journal articles; minor descriptors represent other important concepts included in the documents and articles. By limiting your search terms to major descriptors, you can limit them to those instances in which they represent the main concepts. For example, in our sample, we can limit retrieval of the descriptor EQUAL-EDUCATION to those citations in which it is a main concept. To do this, you would enter it as EQUAL-EDUCATION.MJ., thus limiting it to major descriptors.

In our sample search, we will limit to major descriptors all those terms searched as descriptors (major or minor) in steps 1 and 2:

```
TYPE IN SEARCH TERMS OR ENTER COMMAND
S6-->    EQUITY.TI,MJ. OR EQUAL-EDUCATION.MJ.

A6    3353 DOCUMENTS FOUND
TYPE IN SEARCH TERMS/ OR ENTER COMMAND
S7-->    EXCELLENCE.TI. OR EDUCATIONAL-QUALITY.MJ.

A7    2684 DOCUMENTS FOUND
TYPE IN SEARCH TERMS, OR ENTER COMMAND
S8-->    6 AND 7 AND 4

A8      91 DOCUMENTS FOUND
```

By limiting these terms to major descriptors, we have successfully restricted the number of citations retrieved to a reasonable level. How much the results are limited depends on the objectives of the search. Your information needs will determine how and how much you limit your results.

To determine whether the retrieved citations are relevant to the topic, the first 10-15 titles should be scanned by printing them online. Based on this evaluation, the search strategy may need additional revision.

Limiting Your Search Output by Publication Date

In the following example, the search output was limited by publication date. The search topic is on "Effects of nutrition on young children."

```
TYPE IN SEARCH TERMS OR ENTER COMMAND
S1-->   NUTRITION.TI,DE. OR DIET.TI,ID. OR MALNUTRITION.TI.

A1      2938 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S2-->   PRESCHOOL-CHILDREN OR YOUNG-CHILDREN

A2      8157 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S3-->   1 AND 2

A3       182 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMANDS
S4-->   3 AND (82 OR 83 OR 84 OR 85).YR.

A4        19 DOCUMENTS FOUND
```

As you can see, two sets of terms were originally entered, one representing a "nutrition" concept, the other representing a "young children" concept. When these two sets were combined in search statement 4, 182 documents were retrieved. Since this was too many, the search was limited by adding a set representing the publication date.

The publication date for each citation is stored in the YR field, as the last two digits of the year of publication. This field can be searched in the same way that subject-conveying fields are searched: specific years can be selected, and combined using logical operators. Note that several years can be limited to the YR field at one time by adding parentheses.

When this "publication date" set was combined with the other two sets, the number of documents retrieved was reduced from 182 to 19.

WHAT IF YOU RETRIEVED TOO FEW CITATIONS?

There will be times when even the most logically planned search will not yield the expected results. It will be necessary to adjust the search strategy to retrieve a larger number of documents. There are two ways of doing this: adding descriptors to each concept set, or adding free text terminology to each concept set.

Adding Descriptors

Let's try some searches where adding descriptors is necessary to expand the search output. Two sample searches follow, each with its own point to make. The first search topic is "Test Scores of Black and Hispanic Junior High Students."

```
ENTER COMMAND: S, P, R, D, M, OR O.
XX--> S

TYPE IN SEARCH TERMS OR ENTER COMMAND
S1--> TEST-RESULTS OR SCORES.DE.

A1    5244 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S2--> BLACKS.DE. OR BLACK-ACHIEVEMENT OR BLACK-EDUCATION OR
      BLACK-STUDENTS OR BLACK-YOUTH

A2    10815 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S3--> HISPANIC-AMERICANS OR MEXICAN-AMERICANS OR
      MEXICAN-AMERICAN-EDUCATION OR SPANISH-SPEAKING

A3    7248 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S4--> 2 OR 3

A4    16763 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S5--> JUNIOR-HIGH-SCHOOLS

A5    5155 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S6--> 1 AND 4 AND 5

A6    6 DOCUMENTS FOUND
```

Let's examine the search strategy so far. We had three different concepts: TEST SCORES, BLACKS OR HISPANICS, and JUNIOR HIGH SCHOOLS. When we ANDed the three concepts, we discovered very few "hits". There are two ways we can broaden this search strategy. First, we can take a look at what we mean by TEST SCORES. If we are talking of "how well students perform", we should add ACADEMIC ACHIEVEMENT and ACHIEVEMENT GAINS to the TEST SCORES concept. The second approach is to add terms to our population concept, thus broadening it. In either case, additional descriptors can be identified by printing and examining medium-length citations from the six already retrieved documents.

If we expand both sets, the result looks like this:

```
TYPE IN SEARCH TERMS OR ENTER COMMAND
S7--> ACADEMIC-ACHIEVEMENT.MJ. OR ACHIEVEMENT-GAINS.MJ.

A7    9813 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S8--> 7 OR 1

A8    14530 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S9--> MINORITY-GROUPS OR MINORITY-GROUP-CHILDREN OR ETHNIC-GROUPS
      OR ETHNICITY.DE.

A9    12020 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S10--> RACIAL-DIFFERENCES OR RACIAL-FACTORS OR RACE.DE.

A10   3904 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S11--> 9 OR 10 OR 4

A11   27947 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S12--> 5 AND 8 AND 11

A12   38 DOCUMENTS FOUND
```

By expanding two of the concept sets, we were able to increase the number of documents retrieved from 6 to 37. As you expand your results in this way, remember to scan some titles to make sure the documents retrieved are relevant to your topic.

Now let's take a similar problem. The search question is "Burnout among Elementary Teachers." See what happens in this case:

```
ENTER COMMAND: S, P, PO, R, D, M, OR O.
XX--> S

TYPE IN SEARCH TERMS OR ENTER COMMAND
S1--> TEACHER-BURNOUT.MJ.

A1    148 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S2--> ELEMENTARY-EDUCATION

A2    31482 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S3--> 1 AND 2

A3    3 DOCUMENTS FOUND
```

Let's examine what happened in this search. We majored the descriptor TEACHER BURNOUT because we knew we wanted this as a main concept. We used only one term to describe the elementary level because it is the "mandatory" term for that level. However, we retrieved only 2 citations. By examining some of the titles from statement #1, we can discover several other descriptors to use in our search. We can then "adjust" our strategy to broaden our results:

```
TYPE IN SEARCH TERMS OR ENTER COMMAND
S4--> TEACHER-BURNOUT OR TEACHER-MORALE

A4    872 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S5--> STRESS-VARIABLES OR WORK-ATTITUDES OR JOB-SATISFACTION

A5    7215 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S6--> TEACHERS.DE. OR TEACHER.DE.

A6    86823 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S7--> 5 AND 6

A7    1258 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S8--> 4 OR 7

A8    1807 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S9--> ELEMENTARY-SCHOOL-TEACHERS OR 2

A9    33675 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S10--> 8 AND 9

A10   159 DOCUMENTS FOUND
```

We now have a larger set of results to use. In most cases, the rotated display in the ERIC Thesaurus will lead the way to locate additional terms. However, when this does not happen, remember to examine the citations already located to identify additional useful descriptors.

Using Free Text Terminology

Free text terms allow searchers to access "hard-to-find" documents in a fast and easy manner. They are particularly helpful when your search topic calls for terms that are jargon (such as "user-friendly") or are technical (such as "Rasch model"). Using the above example on teacher burnout, several changes have been made to add free text terminology to the search strategy:

```
ENTER COMMAND:  S, P, PO, R, D, M, OR O.
XX--> S

TYPE IN SEARCH TERMS OR ENTER COMMAND
S1--> BURNOUT OR BURN ADJ OUT OR MORALE OR STRESS OR JOB ADJ
      SATISFACTION

A1    9807 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S2--> 1 SAME TEACHER$1

A2    2542 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S3--> ELEMENTARY-EDUCATION OR ELEMENTARY-SCHOOL-TEACHERS

A3    33675 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S4--> 3 AND 2

A4    268 DOCUMENTS FOUND
```

In this search, the use of free text terms expanded our results from 159 to 268 documents. As discussed earlier, several titles should now be scanned to insure that the new results are relevant to your information need.

CHAPTER 4

CAN I SEARCH SOMETHING OTHER THAN A SUBJECT?

The answer to this question is, of course, YES. Four other ways to search ERIC will be discussed in this chapter, with examples of each. They are:

Searches for specific authors

Searches for specific institutions or organizations

Searches for speeches from a specific meeting

Searches for certain types of publications, e.g., research reports or curriculum materials

Each of these types of searches uses information from a specific field in the ERIC database. Therefore, you will be identifying the information you are seeking, identifying the field in which that information is located, and then limiting your search statement to that field. These three steps will give you access to the non-subject information stored in ERIC.

SEARCHING FOR A SPECIFIC AUTHOR

ERIC records the author of each document or article in the database. However, there are two things you need to know about this author information and the way it is recorded. First, the author names are recorded exactly as they appear on the article. Unless an author uses the same form of his or her name consistently, it may appear in the database in several different ways. For example, William J. Russell may have authored articles as William Russell, William J. Russell, or W. J. Russell. Your search strategy needs to allow for this kind of variation. Second, ERIC only records two authors for each article. If there were three or more authors, only the first author's name will be stored in the database.

Let's try an example of an author search. Assume that you want to find out what William J. Russell has published. Your dialogue with the computer will be:

```
ENTER COMMAND:  S, P, R, D, M, OR O.
XX -->     S

TYPE IN SEARCH TERMS, OR ENTER COMMAND
S1 -->     RUSSELL-WILLIAM$

A1       13 DOCUMENTS FOUND
```

Let's review what we have done. After the system prompt, we told BRS that we wanted to search by typing in an **S**. Then, we typed in RUSSELL-WILLIAM$. The person's last name is entered first, followed by a hyphen and the first name. By truncating the first name with the dollar sign, we located all the citations in ERIC that were written by any William Russell. The advantage of the truncation is that we will retrieve citations by Russell, even if he didn't use his middle initial. The disadvantage of the truncation is that we may retrieve citations by another William Russell. In fact, that is what happened. Let's look at the results.

```
TYPE IN SEARCH TERMS OR ENTER COMMAND
S2 -->    P

ENTER SEARCH QUESTION NUMBER.
XX -->    1

ENTER S, M, OR L.
XX -->    S

ENTER DOCUMENT(S) NUMBERS OR RANGE.
XX -->    1-3

 1
AN EJ273292.
AU LINTON, THOMAS E.; RUSSELL, WILLIAM P.
TI PROVE: AN INNOVATIVE HIGH SCHOOL PROGRAM FOR EDUCATING
   ANTI-SOCIAL DISTURBED ADOLESCENTS.
SO HIGH SCHOOL JOURNAL; V66 N1 P18-25 OCT-NOV1982. 82.
IS CIJAPR83.
 2
AN ED182979.
AU RUSSELL, WILLIAM J. ED.
TI TOPICS IN DISCOURSE: REPORT OF THE ANNUAL MEETING OF THE
   DISCOURSE LINGUISTICS SPECIAL INTEREST GROUP OF THE AMERICAN
   EDUCATIONAL RESEARCH ASSOCIATION (2ND, APRIL 4-8, 1977).
   PROFESSIONAL PAPER 40.
IS RIEJUL80.
 3
AN ED174002.
AU RUSSELL, WILLIAM; SNOW, DAVID.
TI A BILINGUAL STUDY OF SELECTED SYNTACTIC SKILLS IN
   SPANISH-SPEAKING CHILDREN. TECHNICAL REPORT 60.
IS RIEDEC79.
```

Look at the author(s) listed for each of these citations. In the first one, William P. Russell is the second author. Since we are looking for publications by William J. Russell, this citation is not relevant. The second citation lists William J. Russell as the editor; it matches our search. The third citation lists William Russell as a co-author (no middle initial). Based on the

information we have, it is impossible to tell if this document is relevant.

Based on this example, you can see the types of problems you might encounter when searching for the publications of a particular author. Remember that it is best to truncate the author's name, unless you know that this author always uses the same form of his or her name. This approach will probably yield a few citations that are off target, but will be fairly complete in locating the citations by the selected author.

SEARCHING FOR THE PUBLICATIONS OF A SPECIFIC INSTITUTION

You may want to locate all or some of the reports issued by a certain institution. This information is recorded in ERIC for all the documents included in Resources in Education, but not for the journal articles listed in the Current Index to Journals in Education. The information about institutions can be stored in the INSTITUTION field (if the report is published or authored by the institution) or in the SPONSORING AGENCY field (if the report was funded by the institution). To illustrate this type of search, we will try to locate recent reports published by the ERIC Clearinghouse on Tests, Measurement, and Evaluation (ERIC/TME).

```
TYPE IN SEARCH TERMS OR ENTER COMMANDS
S1 -->    ERIC.IN,SN.

A1        4179 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S2 -->    TESTS.IN,SN.

A2        116 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S3 -->    1 AND 2

A3        115 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S4 -->    P

ENTER SEARCH QUESTION NUMBER.
XX -->    3

ENTER S, M, OR RETURN
XX -->    S

ENTER DOCUMENT(S) NUMBERS OR RANGE.
XX -->    1-3
```

```
 1
AN ED241587.
AU FRECHTLING, JOY A.; MYERBERG, N. JAMES.
TI REPORTING TEST SCORES TO DIFFERENT AUDIENCES.
IS RIEJUL84.
 2
AN ED227134.
AU SHEPARD, LORRIE A.
TI ASSESSMENT OF LEARNING DISABILITIES.
IS RIEJUL83.
 3
AN ED227133.
AU HEDGES, LARRY V.
TI STATISTICAL METHODOLOGY IN META-ANALYSIS.
ID RIEJUL83.
```

The results of the first search statement included publications by all of the 16 ERIC Clearinghouses. Combining these results with the word "TESTS" limited the output to only those citations published by ERIC/TME.

You, of course, may be interested in locating documents published by a university to which you are applying for a new job, or a foundation to which you are applying for some funding, to find out what kinds of research they are publishing. The example above shows you how to execute such a search, but let's talk a little bit about how to design the search strategy.

The main consideration in designing a search strategy is identifying the name of the institution correctly. ERIC uses very standardized procedures for determining the form of each name, but these procedures are not particularly obvious. Therefore, when you are designing a search for an institution, be creative. Try to imagine all the ways that the institution's name might appear. Don't forget to consider abbreviations. Then use the most unique words for your search strategy. For example, a search for citations from the University of Illinois could be entered:

```
TYPE IN SEARCH TERMS OR ENTER COMMAND
S1 -->    ILLINOIS.IN,SN.

A1        3955 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S2 -->    UNIVERSITY.IN,SN. OR UNIV.IN,SN.

A2        56207 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S3 -->    1 WITH 2

A3        2645 DOCUMENTS FOUND
```

In this example, we included both the full word for "University" and its abbreviation. These results were then combined with "Illinois", using the WITH operator to require that both words be in the same sentence.

SEARCHING FOR A SPEECH FROM A SPECIFIC MEETING

Remember hearing that paper that was presented at the 1984 meeting of the American Educational Research Association (AERA) meeting? Do you think you could get a copy from ERIC? To find out, you need to be able to find its ED number in the database. Information about presentations at meetings is stored in the ERIC database in the NOTE field. To illustrate this type of search, we will try to locate the paper that William Mehrens presented at the 1984 AERA meeting.

```
TYPE IN SEARCH TERMS OR ENTER COMMAND
S1 -->    MEHRENS-WILLIAM$.AU.

A1        16 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S2 -->    AMERICAN.NT. AND RESEARCH ADJ ASSOCIATION.NT.

A2        9391 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S3 -->    1984.NT.

A3        1145 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S4 -->    1 AND 2 AND 3

A4        1 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S5 -->    P

ENTER SEARCH QUESTION NUMBER.
XX -->    4

ENTER S, M, OR RETURN
XX -->    S

ENTER DOCUMENT(S) NUMBERS OR RANGE.
XX -->    1

 1
AN ED245437.
AU CLARIZIO, HARVEY F.; MEHRENS, WILLIAM A.
TI IDENTIFICATION AND PROGRAMMING FOR THE GIFTED: SOME LIMITATIONS
   OF GUILFORD'S STRUCTURE OF INTELLECT MODEL. DRAFT.
IS RIENOV84.
```

In this example, we used two different search statements to locate papers from the 1984 AERA meeting. First we located the name of the meeting in the NOTE field. Notice that we did not enter the word "Educational" as part of the search statement. In general, it is best not to use "Education" or "Educational" as free text terms in ERIC because it takes so long to complete the search. You can, of course, use these terms when they are included in descriptors.

Second, we entered the year "1984" as a search statement, limiting it to the NOTE field. In this way, we could differentiate papers presented at the 1984 meeting from those presented in other years.

By combining these two search statements (describing the relevant meeting) with an author search statement, we identified the paper we were looking for. If you don't know who presented the paper, you can of course combine the search statements about the meeting with other search statements. For example, you may want to identify papers from the 1984 AERA meeting that discuss Black student achievement.

SEARCHING FOR CERTAIN TYPES OF PUBLICATIONS

ERIC also records information about the type of publication, e.g., a curriculum guide or a test. This type of information is recorded using a specific set of publication type codes. They are listed in Attachment 5. To illustrate their use, we will try to locate tests that measure teacher attitudes.

```
TYPE IN SEARCH TERMS OR ENTER COMMAND
S1 -->    ATTITUDE-MEASURES.MJ.

A1        1065 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S2 -->    TEACHER-ATTITUDES

A2        12836 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S3 -->    160.PT.

A3        4403 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S4 -->    1 AND 2 AND 3

A4        25 DOCUMENTS FOUND
TYPE IN SEARCH TERMS OR ENTER COMMAND
S5 -->    P
```

```
ENTER SEARCH QUESTION NUMBER.
XX -->    4

ENTER S, M, OR RETURN
XX -->    S

ENTER DOCUMENT(S) NUMBERS OR RANGE.
XX -->    1-3

 1
AN ED244991.
AU MCCALL, CHESTER H. JR.; GARDNER, SUZANNE.
TI A STATISTICAL ASSESSMENT OF ORDER OF PRESENTATION IN MULTIPLE
   ITEM LIKERT SCALE SURVEY RESPONSES, OR "WHO'S ON FIRST?".
IS RIEOCT84.
 2
AN ED238172.
AU REDDICK, THOMAS; PEACH, LARRY.
TI A STUDY CONCERNING PERCEPTIONS OF PUBLIC SCHOOL TEACHERS AND
   PRINCIPALS REGARDING CURRICULUM ISSUES IN MIDDLE TENNESSEE.
IS RIEMAY84.
 3
AN ED229932.
AU COVERT, ROBERT W.; SUAREZ, TANYA M.
TI CONSTRUCTING QUESTIONNAIRES FOR EARLY CHILDHOOD SPECIAL
   EDUCATION PROGRAMS. TADSCRIPT NUMBER 7.
IS RIEOCT83.
```

In this example, the publication type code for tests (160) was used in combination with subject terms describing the content of the test and the population for which it was intended. This type of combination of concepts will be fairly common. Limiting a search by publication type may be particularly helpful when your original search retrieved too many citations, and you only want to see certain types of materials (such as research reports, or opinion papers). When you are planning a subject search, consider what types of documents you may want to retrieve, so you can modify your search strategy easily while you are online.

Publication types have only been assigned to ERIC documents since 1974, and to journal articles in the ERIC database since 1979. Therefore, if you want to do a retrospective search, do not use publication type codes to limit the results.

CHAPTER 5

SEARCHING OTHER DATABASES

At times, you will want to search other education and social science databases. This decision will be based on the topic you are trying to search or the types of materials you are trying to find. If it is methodological or deals with some aspect of psychology, you will want to continue your search in Psychological Abstracts. If your topic relates to special education, be sure to include the Exceptional Child Education Resources database in your search. If you are trying to identify a test or locate reviews of a test, be sure to search in the Mental Measurement Yearbook database, or the ETS Test Collection file. If you are looking for information about educational software, check Resources in Computer Education.

Each of these databases will be briefly described in this chapter. The descriptions will include the name and identifying acronym for the database, a brief review of the types of materials and period of time covered in the database, the searchable fields that might be of special interest, and sources of further information.

PSYCHOLOGICAL ABSTRACTS

(PSYC)

"After Dark" gives you an option of five menus from which to select databases. This database is from the category, SOCIAL SCIENCES AND HUMANITIES DATABASES, which corresponds to OPTION 5.

COVERAGE: Journal articles, technical reports, monographic series', and dissertations on psychology and related disciplines in the behavioral sciences. 1967-present.

FIELDS:

DESCRIPTORS (DE): Subject terms selected from the Thesaurus of Psychological Index Terms.

IDENTIFIER (ID): A phrase describing the content of the article. For experimental articles, it lists the independent and dependent variable(s) and the subject population. A controlled vocabulary is not used, so new or jargon terms may be used. This field can be effectively used in combination with the title field for free text searches.

CLASSIFICATION CODE (CL): A numeric code assigned to each article to classify it for placement in the printed index. Prior to 1976, 14 two-digit codes were used; since then a classified set of four-digit codes has been in use. This field will be particularly useful if one of their codes corresponds with your general area of interest.

LANGUAGE (LA): Psychological Abstracts is international (and thus multilingual) in scope. You may wish to limit your search to English (Engl) or some other specific language.

SOURCES FOR ADDITIONAL INFORMATION:

Psychological Abstracts, American Psychological Association, 1200 17th Street, NW, Washington, DC 20036. (202) 833-7626.

Thesaurus of Psychological Index Terms, 4th edition. Washington, DC: American Psychological Association, 1985.

EXCEPTIONAL CHILD EDUCATION RESOURCES

(ECER)

"After Dark" gives you an option of five menus from which to select databases. This database is from the category, EDUCATION DATABASES, which corresponds to OPTION 4.

COVERAGE: English language materials in print or nonprint formats dealing with the education of children and youth who are gifted and talented or handicapped. Ages covered generally include 0-21 years. 1966-present.

FIELDS: Essentially the same as in ERIC. Major and minor descriptors are available for subject searching, as well as identifiers, the abstract, and the title.

SOURCES FOR ADDITIONAL INFORMATION:

Department of Information Services, The Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091. (703) 620-3660.

MENTAL MEASUREMENTS YEARBOOK

(MMYD)

"After Dark" gives you an option of five menus from which to select databases. This database is from the category, SOCIAL SCIENCE DATABASES, which corresponds to OPTION 5.

COVERAGE: Factual information, critical reviews and reliability-validity information on the English language tests covered in the Eighth Mental Measurements Yearbook, plus the same content for tests published after the Eighth MMY. 1977-present.

FIELDS:

TEST NAME (TN): When looking for reviews of a particular test, you can search by its title.

CLASSIFICATION (CL): Each test is classified into one or more general subject categories, e.g., Spelling. These categories correspond to those used in the print edition of MMY, and are the only subject terms assigned to a test and available for searching. A subject search can be amplified by using the Test Name or Scores fields.

POPULATION (PO): The population for which the test is intended, e.g., Grade 2.

SCORES (SC): The test's subscores. This field may be helpful in narrowing a subject search.

TEXT (TX): The text field contains two types of information. For tests covered in the Eighth Yearbook, the text field contains descriptive information about the test as well as the text of test reviews. For tests appearing since the Eighth Yearbook, the text field contains only descriptive information.

REVIEWS (RR): The reviews field includes test reviews for new tests that have appeared since the Eighth Yearbook. For test reviews of tests that appeared in the Eighth Yearbook, search the TX field. All reviews in the database can be viewed online.

SOURCES FOR ADDITIONAL INFORMATION:

Buros Institute of Mental Measurements, University of Nebraska--Lincoln, 135 Bancroft Hall, Lincoln, NB 68588. (402) 472-1739.

ETS TEST COLLECTION DATABASE

(ETSF)

"After Dark" gives you an option of five menus from which to select databases. This database is from the category, EDUCATION DATABASES, which corresponds to OPTION 4.

COVERAGE: Bibliographic records of over 7,600 commercially-available tests and noncommercial research instruments. This database is particularly helpful for identifying an instrument for a particular purpose, because its coverage is so comprehensive. Current (out-of-print entries are purged).

FIELDS:

SUBTESTS (DT): Subtest names can be searched in a subject search.

DESCRIPTORS (DE): Terms from the Thesaurus of ERIC Descriptors are assigned as descriptors. Single-word descriptors must be searched separately in their own field (SW).

IDENTIFIERS (ID): Additional subject terms. They are similar to ERIC identifiers.

GRADE LEVEL (GL): A list of grades for which the test is suitable. For tests that are used outside the school setting, see the Target Audience field.

TARGET AUDIENCE (TG): A list of ages for which the test is suitable.

ABSTRACT (AB): The words in the abstract can be used to expand a subject search.

SOURCES OF ADDITIONAL INFORMATION:

Test Collection, Educational Testing Service, Princeton, NJ 08541. (609) 734-5737.

RESOURCES IN COMPUTER EDUCATION

(RICE)

"After Dark" gives you an option of five menus from which to select databases. This database is from the category, EDUCATION DATABASES, which corresponds to OPTION 4.

COVERAGE: Information concerning the state of the art in school computer applications. Includes data on software packages and producers. 1979-present.

FIELDS:

RESOURCE TYPE (RT): There are two different types of citations that are included in this database: Producer and Software. This field allows you to divide the database into its two halves.

TITLE (TI): The title field contains the title or name of a software package or product.

HARDWARE TYPE (HT): This field contains general hardware type designations allowing you to search by computer name.

DESCRIPTORS (DE): Standard ERIC descriptors are used. Multi-word descriptors have been unbound so that a free-text search will yield both controlled and natural language vocabulary.

EVALUATION (EV): This field identifies the major strengths and weaknesses of a package in addition to designating the source and date of the evaluation. The words in this field can be searched as free text.

SOURCES FOR ADDITIONAL INFORMATION:

Northwest Regional Educational Laboratory, 300 SW Sixth Ave., Portland, OR 97204. (503) 248-6800 Ext. 551.

ATTACHMENT 1

SEARCH STRATEGY WORKSHEET

CONCEPT SET 1:

_____ OR _____ OR _____

_____ OR _____ OR _____

_____ OR _____ OR _____

AND

CONCEPT SET 2:

_____ OR _____ OR _____

_____ OR _____ OR _____

_____ OR _____ OR _____

AND

CONCEPT SET 3:

_____ OR _____ OR _____

_____ OR _____ OR _____

_____ OR _____ OR _____

AND

CONCEPT SET 4:

_____ OR _____ OR _____

_____ OR _____ OR _____

_____ OR _____ OR _____

ATTACHMENT 2

ERIC FIELD NAMES AND ABBREVIATIONS

Paragraph Label	Content of paragraph	Function
AN	ERIC accession number	search
AU	Author/s	search
IN	Name of institution where work was performed (RIE only)	search
TI	Title	search
SO	Journal title, volume, issue, number, date, pages.	search
*LG	Language	search
*GS	Geographic source (RIE only)	search
SN	Sponsoring agency name and code (RIE only)	search
PA	Program area code (RIE only)	search
IS	RIE or CIJE issue number	search
NO	Numbers: grant, contract, report, project (RIE only)	search
CH	Clearinghouse code	search
*GV	Governmental status (RIE only)	search
PR	EDRS price codes (RIE only) Not available from EDRS PR-NA	search
PT	Publication type code	search
AV	Availability statement	search
LV	Level of availability (RIE only)	search
NT	Descriptive note (RIE only)	search
YR	Year of publication or generated entry date	search
MJ	Major subject descriptors	search
MN	Minor subject descriptors	search
ID	Identifiers	search
AB	Abstract	search

* Data elements added in 1979.

ATTACHMENT 3

"AFTER DARK" COMMAND SUMMARY

LOGICAL OPERATORS

OR	Either one or both subject terms must be in each citation retrieved.
AND	Both subject terms must be in each citation retrieved.
NOT	The subject term must not appear in the citation.

WORD PROXIMITY OPERATORS

ADJ	Terms must be immediately adjacent to one another, in order.
WITH	Terms must be in the same sentence.
SAME	Terms must be in the same field.

TRUNCATION

Place a $ at the point of truncation.

"AFTER "DARK" COMMANDS

S	SEARCH:	To enter search terms.
P	PRINT:	To print search results online.
R	REVIEW:	To review the search terms already entered.
D	DATABASE:	To change to a different database.
M	MENU:	To return to the Master Menu.
O	OFF:	To log off the system.

ATTACHMENT 4

MANDATORY LEVEL DESCRIPTORS

In the ERIC system, one or more of the 14 descriptors listed below must be used to index educational level, when a document or journal article deals with such levels.

EARLY CHILDHOOD EDUCATION: From birth through grade 3.

PRESCHOOL EDUCATION: From birth to entrance in kindergarten or grade 1.

PRIMARY EDUCATION: From kindergarten through grade 3.

ELEMENTARY SECONDARY EDUCATION: From kindergarten through grade 12.

ELEMENTARY EDUCATION: From kindergarten through grade 8.

ADULT BASIC EDUCATION: Adults at the elementary level (K-8).

PRIMARY EDUCATION: From kindergarten through grade 3.

INTERMEDIATE GRADES: Grades 4, 5, and 6.

SECONDARY EDUCATION: From grade 7 through grade 12.

JUNIOR HIGH SCHOOLS: Grades 7, 8, and 9.

HIGH SCHOOLS: From grade 9 through grade 12.

HIGH SCHOOL EQUIVALENCY PROGRAMS: Adult education leading to a high school equivalency certificate.

POSTSECONDARY EDUCATION: Beyond the secondary level.

HIGHER EDUCATION: Beyond the secondary level leading to a formal degree.

TWO YEAR COLLEGES: Postsecondary institutions providing at least 2, but less than 4, years of academic and/or occupational education.

ATTACHMENT 5

PUBLICATION TYPE CODES

010	BOOKS
	COLLECTED WORKS
020	--General
021	--Conference Proceedings
022	--Serials
030	CREATIVE WORKS (Literature, Drama, Fine Arts)
	DISSERTATIONS/THESES
040	--Undetermined
041	--Doctoral Dissertations
042	--Masters Theses
043	--Practicum Papers
	GUIDES
050	--General
	--Classroom Use
051	--Instructional Materials (For Learner)
052	--Teaching Guides (For Teacher)
055	--Non-Classroom Use (For Administrative & Support Staff, and for Teachers, Parents, Counselors, etc. for Non-Classroom Use)
060	HISTORICAL MATERIALS
070	INFORMATION ANALYSES (Literature Reviews, State-of-the-Art Papers)
071	--ERIC Information Analysis Products
080	JOURNAL ARTICLES
090	LEGAL/LEGISLATIVE REGULATORY MATERIALS
100	AUDIOVISUAL/NON-PRINT MATERIALS
101	--Computer Programs
110	STATISTICAL DATA (Numerical, Quantitative)
120	VIEWPOINTS (Opinion) Papers, Position Papers, Essays, etc.)
	REFERENCE MATERIALS
	--General
131	--Bibliographies
132	--Directories/Catalogs
133	--Geographic Materials
134	--Vocabularies/Classifications/Dictionaries
	REPORTS
140	--General
141	--Descriptive
142	--Evaluative/Feasibility
143	--Research/Technical
150	SPEECHES, CONFERENCE PAPERS
160	TESTS, EVALUATION INSTRUMENTS
170	TRANSLATIONS
171	--Multilingual/Bilingual Materials
999	OTHER/MISCELLANEOUS